

ABSTRACT OF THE DISCLOSURE

A method for producing power to drive a load (17) using a working fluid circulating through a system that includes a prime mover (12) having an inlet and an accumulator (20) containing discharge fluid exiting the prime mover. A stream of heated vaporized fluid is supplied at relatively high pressure to the prime mover inlet and is expanded through the prime mover (12) to a lower pressure discharge side where discharge fluid enters an accumulator (20). The discharge fluid is vaporized by passing it through an expansion device (28) across a pressure differential to a lower pressure than the pressure at the prime mover discharge side. Latent heat of condensation in the discharge fluid being discharged from the prime mover is transferred by a heat exchanger (14) to discharge fluid that has passed through the expansion device (28). Vaporized discharge fluid, to which heat has been transferred from fluid discharged from the prime mover, can be returned through a compressor (20) and vapor drum (34) to the prime mover inlet. Vaporized discharge fluid can be removed directly from the accumulator (20) by a compressor (16) where it is pressurized slightly above the pressure in the vapor drum (34), to which it is delivered directly, or it can be passed through a heat exchanger (50) where the heat from the compressed fluid is transferred to an external media after leaving the compressor (16) in route to the vapor drum (34). Liquid discharge fluid from the accumulator (20) is pumped to a boiler liquid drum (32), then to the vapor drum (34) through a heat exchanger (10). The liquid discharge fluid may be expanded through an orifice (62) to extract heat from an external source at heat exchanger (56) and discharged into the vapor drum (34) or the accumulator (20), depending on its temperature upon leaving heat exchanger (56).